Matrix 1

Likelihood of Failure and Impact

Likelihood of Failure	Likelihood of Impact			
	Very Low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very Likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

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TRAQ

- **Consequences of Failure:**
  - Severe
  - Significant
  - Minor
  - Negligible

Consequences
(influenced by:)

- Target value
- Size of part
- Fall distance
- Protection factors
- (consider human nature)

Matrix 2

Risk Rating

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very Likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Matrix 2

Risk Rating

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very Likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Matrix 2

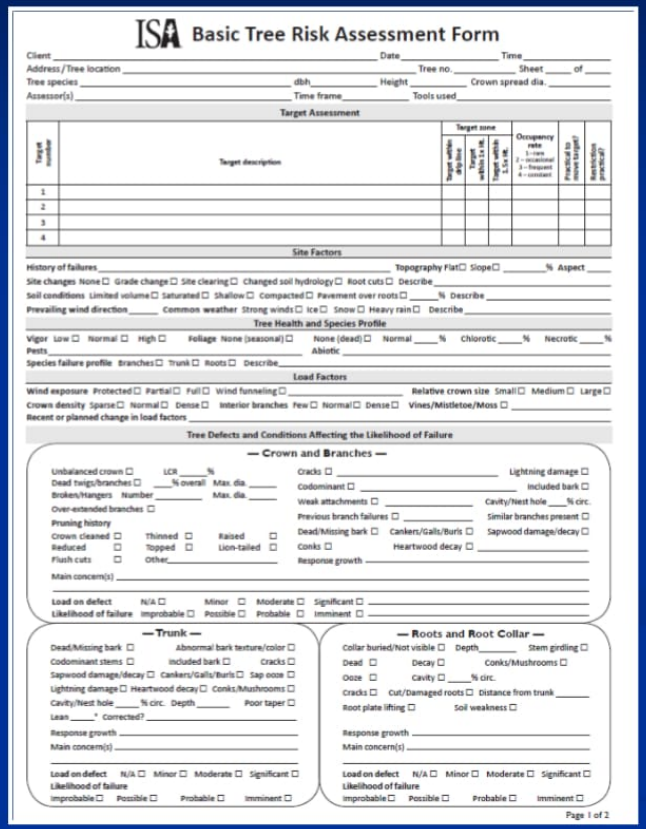
Risk Rating

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very Likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

TRAQ

- **Risk Rating:**
  - ➢ Extreme
  - ➢ **High**
  - ➢ Moderate
  - ➢ Low

Allows for Reporting Multiple Targets & Hazards



ISA Basic Tree Risk Assessment Form

Client ____ Date ____ Time ____

Address / Tree location ____ Tree no. ____ Sheet ____ of ____

Tree species ____ dbh ____ Height ____ Crown spread dia. ____

Assessor(s) ____ Time frame ____ Tools used ____

Target Assessment

Target number	Target description	Target zone: Target within drip line	Target within 1.5x ht.	Target within 1.5x rad.	Occupancy rate (1 – rare, 2 – occasional, 3 – frequent, 4 – constant)	Practical to move target?	Restriction practical?
1							
2							
3							
4							

Site Factors

History of failures ____ Topography Flat ☐ Slope ☐ ____% Aspect ____

Site changes None ☐ Grade change ☐ Site clearing ☐ Changed soil hydrology ☐ Root cuts ☐ Describe ____

Soil conditions Limited volume ☐ Saturated ☐ Shallow ☐ Compacted ☐ Pavement over roots ☐ ____% Describe ____

Prevailing wind direction ____ Common weather Strong winds ☐ Ice ☐ Snow ☐ Heavy rain ☐ Describe ____

Tree Health and Species Profile

Vigor Low ☐ Normal ☐ High ☐ Foliage None (seasonal) ☐ None (dead) ☐ Normal ____% Chlorotic ____% Necrotic ____%

Pests ____ Abiotic ____

Species failure profile Branches ☐ Trunk ☐ Roots ☐ Describe ____

Load Factors

Wind exposure Protected ☐ Partial ☐ Full ☐ Wind funneling ☐ ____ Relative crown size Small ☐ Medium ☐ Large ☐

Crown density Sparse ☐ Normal ☐ Dense ☐ Interior branches Few ☐ Normal ☐ Dense ☐ Vines/Mistletoe/Moss ☐ ____

Recent or planned change in load factors ____

Tree Defects and Conditions Affecting the Likelihood of Failure

— Crown and Branches —

Unbalanced crown ☐ LCR ____% Cracks ☐ ____ Lightning damage ☐

Dead twigs/branches ☐ ____% overall Max. dia. ____ Codominant ☐ ____ Included bark ☐

Broken/Hangers Number ____ Max. dia. ____ Weak attachments ☐ ____ Cavity/Nest hole ____% circ.

Over-extended branches ☐ Previous branch failures ☐ ____ Similar branches present ☐

Pruning history Dead/Missing bark ☐ Cankers/Galls/Burls ☐ Sapwood damage/decay ☐

Crown cleaned ☐ Thinned ☐ Raised ☐ Conks ☐ Heartwood decay ☐ ____

Reduced ☐ Topped ☐ Lion-tailed ☐ Response growth ____

Flush cuts ☐ Other ____

Main concern(s) ____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐ ____

Likelihood of failure Improbable ☐ Possible ☐ Probable ☐ Imminent ☐ ____

— Trunk —

Dead/Missing bark ☐ Abnormal bark texture/color ☐

Codominant stems ☐ Included bark ☐ Cracks ☐

Sapwood damage/decay ☐ Cankers/Galls/Burls ☐ Sap ooze ☐

Lightning damage ☐ Heartwood decay ☐ Conks/Mushrooms ☐

Cavity/Nest hole ____% circ. Depth ____ Poor taper ☐

Leas ____° Corrected? ____

Response growth ____

Main concern(s) ____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

— Roots and Root Collar —

Collar buried/Not visible ☐ Depth ____ Stem girdling ☐

Dead ☐ Decay ☐ Conks/Mushrooms ☐

Ooze ☐ Cavity ☐ ____% circ.

Cracks ☐ Cut/Damaged roots ☐ Distance from trunk ____

Root plate lifting ☐ Soil weakness ☐

Response growth ____

Main concern(s) ____

Load on defect N/A ☐ Minor ☐ Moderate ☐ Significant ☐

Likelihood of failure

Improbable ☐ Possible ☐ Probable ☐ Imminent ☐

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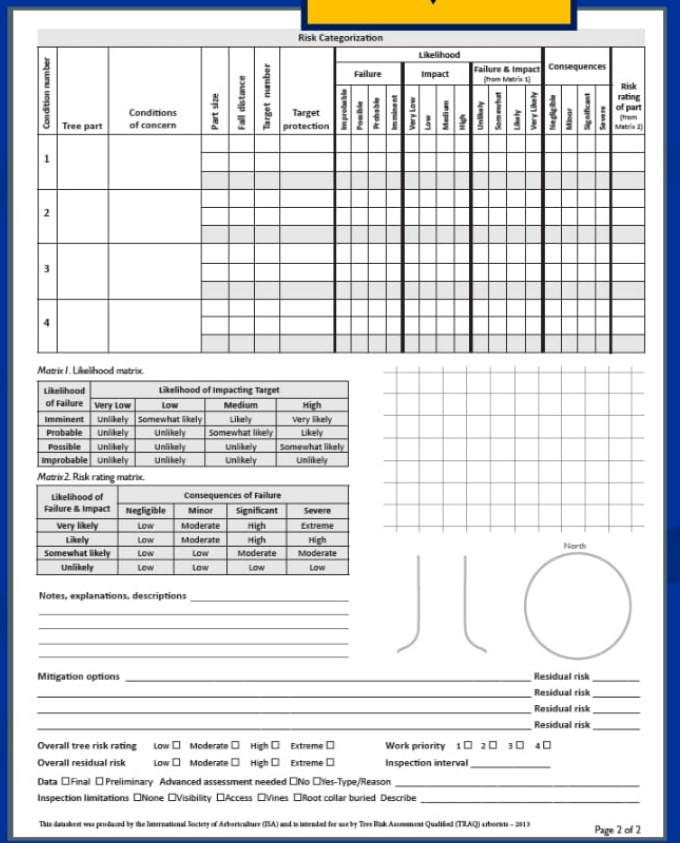
Data Collection Form and Analysis



Risk Categorization

Condition number	Tree part	Conditions of concern	Part size	Fall distance	Target number	Target protection	Likelihood: Failure: Improbable	Failure: Possible	Failure: Probable	Failure: Imminent	Impact: Very Low	Impact: Low	Impact: Medium	Impact: High	Failure & Impact (from Matrix 1): Unlikely	Failure & Impact: Somewhat likely	Failure & Impact: Likely	Failure & Impact: Very likely	Consequences: Negligible	Consequences: Minor	Consequences: Significant	Consequences: Severe	Risk rating of part (from Matrix 2)
1																							
2																							
3																							
4																							

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impacting Target: Very Low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure: Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Notes, explanations, descriptions ____

North

Mitigation options ____ Residual risk ____

Residual risk ____

Residual risk ____

Residual risk ____

Overall tree risk rating Low ☐ Moderate ☐ High ☐ Extreme ☐ Work priority 1 ☐ 2 ☐ 3 ☐ 4 ☐

Overall residual risk Low ☐ Moderate ☐ High ☐ Extreme ☐ Inspection interval ____

Data ☐ Final ☐ Preliminary Advanced assessment needed ☐ No ☐ Yes-Type/Reason ____

Inspection limitations ☐ None ☐ Visibility ☐ Access ☐ Vines ☐ Root collar buried Describe ____

This datasheet was produced by the International Society of Arboriculture (ISA) and is intended for use by Tree Risk Assessment Qualified (TRAQ) arborists – 2013

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Assessor - Mitigation Options

- Pruning
- Removal
- Prop, Guy, Cable, Brace rod
- Lightning protection
- Water, Mulch, Fertilisation, PGR
- Restrict access, reroute
- Move static target, etc.